


**Proportional Pressure Valve  
G<sup>1</sup>/<sub>8</sub>**

- **Electrical control of pneumatic pressure**
- **Fast step response time**
- **High dynamic accuracy**
- **Fail-safe fast exhaust on power loss**
- **Factory or custom defined setup**
- **Supplied with or without amplifier**


**Technical Data**
**Medium:**

Compressed air, 40µm filtered, lubricated or non-lubricated.  
Lubrication recommended at: > 40°C, > 0,5 Hz or > 400 L/min.

**Operation:**

Direct acting proportional solenoid controlling glandless spool.  
Change in voltage/current gives proportional change in pressure.

**Mounting:**

Sub-base or surface mounted

**Port Size:**

G<sup>1</sup>/<sub>8</sub>

**Operating Pressure:**

Maximum inlet pressure 10 bar. For details see overleaf.  
Regulation pressure 0 - 5 bar or 0(1)- 8 bar

**Flow (nominal):**

l/min	Cv	Kv
750	0,76	0,66

**Degree of Protection**

IP 64 with correct plug fitted.

**Ambient Temperature:**

-5°C\* to +50°C

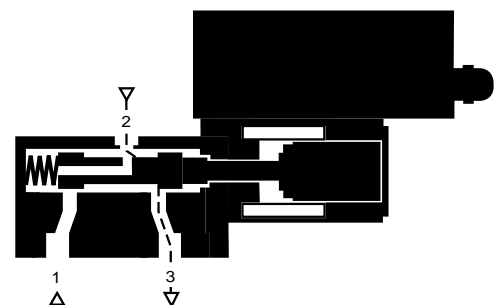
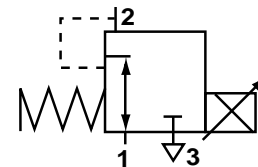
\* Consult our Technical Service for use below +2°C

**Materials:**

Die cast aluminium body. Hard anodised, Teflon coated, matched aluminium spool and sleeve. Nitrile rubber seals. Zinc plated screws.

**Ordering Information**

To order, quote model reference from table overleaf. e.g. PDW 5321-115 for a proportional valve with amplifier and settings 0 - 5 bar and 2V/bar.



**For further technical data on plugs refer to section 7.7.001.**



### General Information

Symbol	Model	Supplied with Amplifier	Outlet Pressure Range (bar) P <sub>2</sub>	Working Pressure Range (bar)	Zero Offset	Gain (V/bar)	Weight (Kg)
	PDW 5321-115	Yes	0 - 5	0 - 5	0 V = 0 bar	2	0,77
	PDW 5321-125	Yes	0 - 8	1 - 8	0 V = 0 bar	1	0,77
	PDW 5321-110	No	0 - 5	0 - 5	-	-	0,63
	PDW 5321-120	No	0 - 8	1 - 8	-	-	0,63

Customer defined setup of gain and offset possible.

### Electrical Details for Amplifier

Supply Voltage	24 V=
Voltage Range:	18 - 32 V=
Residual Ripple:	max. 10%
Output Current for Solenoid :	2,4 A
Stabilised Voltage:	15 V=, max. 5mA
Base Current (Adjustable) I <sub>min</sub> :	0 - 2 A
Maximum Current (Adjustable) I <sub>max</sub> :	0 - 2,4 A
Dither Amplitude (Adjustable):	0 - 100 mApp
Dither Frequency (optional):	50 or 100 Hz
Ramp Rise and Decline Time:	0.1 - 7 s (FS)
Input Signal:	0 - +10 V or 0 - +15 V 0 - 20 mA Potentiometer or any resistance 5 - 20 kΩ
Protection Class:	IP 65
Connection/Amplifier:	Pg 11
Internal Fuse:	F 2A

### Pneumatic Details for Valve with Amplifier

Maximum Flow:	750 l/min
Static Air Consumption:	2.5 l/min
Linearity:	< 0,3 bar
Sensitivity:	< 0,2 bar
Hysteresis:	< 0,3 bar

Flow measured at 10 bar inlet, 6 bar outlet with a pressure drop of 1 bar.

### Amplifier Features

- 1 Control signal input for standard voltage.
- 2 Potentiometer control of signal input.
- 3 Factory or customer defined setup of gain and offset.
- 4 Ramp rise and decline time separately adjustable.

### Electrical Details for Solenoid

Voltage (nominal):	24V=
Rating:	100% E.D.
Current:	Max. 0,8 A at 24VDC
Electrical Connection:	DIN 43 650 table 'A'
Standard Plug:	May be rotated through 360° at 90° intervals
Solenoid Coil:	May be rotated at 90° intervals
Protection Class:	IP 64 (DIN 40 050), with correct plug

### Proportional Valve and Base Options

Valve	Amplifier	Valve, Amplifier & Settings	LH Side Ported Sub-base	RH Side Ported Sub-base
PDW 5321- 110 0 - 5 bar, 2V/bar	PPZ 1200	PDW 5321- 115 0 - 5 bar, 2V/bar	FP 4006	G <sup>1</sup> / <sub>8</sub> FP 4007
PDW 5321- 120 1 - 8 bar, 1V/bar		PDW 5321- 125 1 - 8 bar, 1V/bar	FP 4009	G <sup>1</sup> / <sub>4</sub> FP 4010

### Warning

These products are intended for use in industrial control systems only. Do not use these products where voltage, current and temperatures can exceed those listed under 'Technical Data'.

Before using these products for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in control systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in control systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

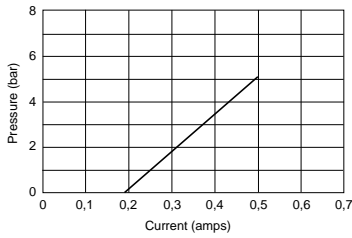
**System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.**

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.



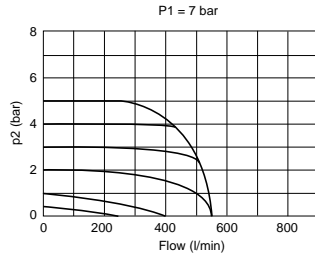
**Pressure/Solenoid Current Characteristics**

**PDW 5321-110/ -115**



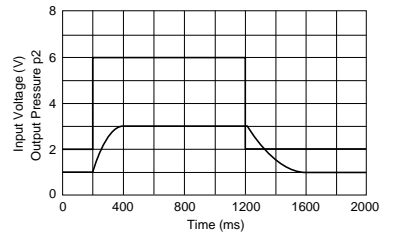
**Pressure /Flow Characteristics**

**PDW 5321-115**  
2 V/bar

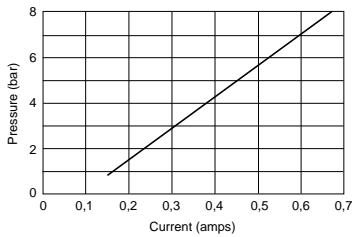


**Response Time Characteristics**

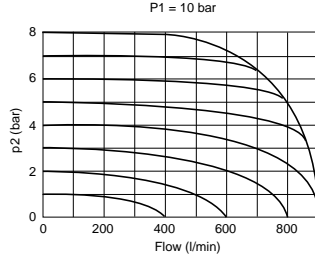
**PDW 5321-115**  
0 - 5 bar



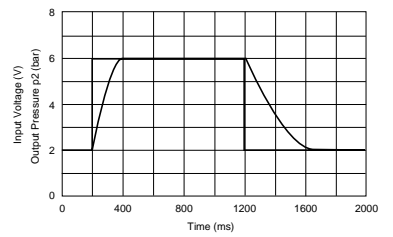
**PDW 5321-120/ -125**



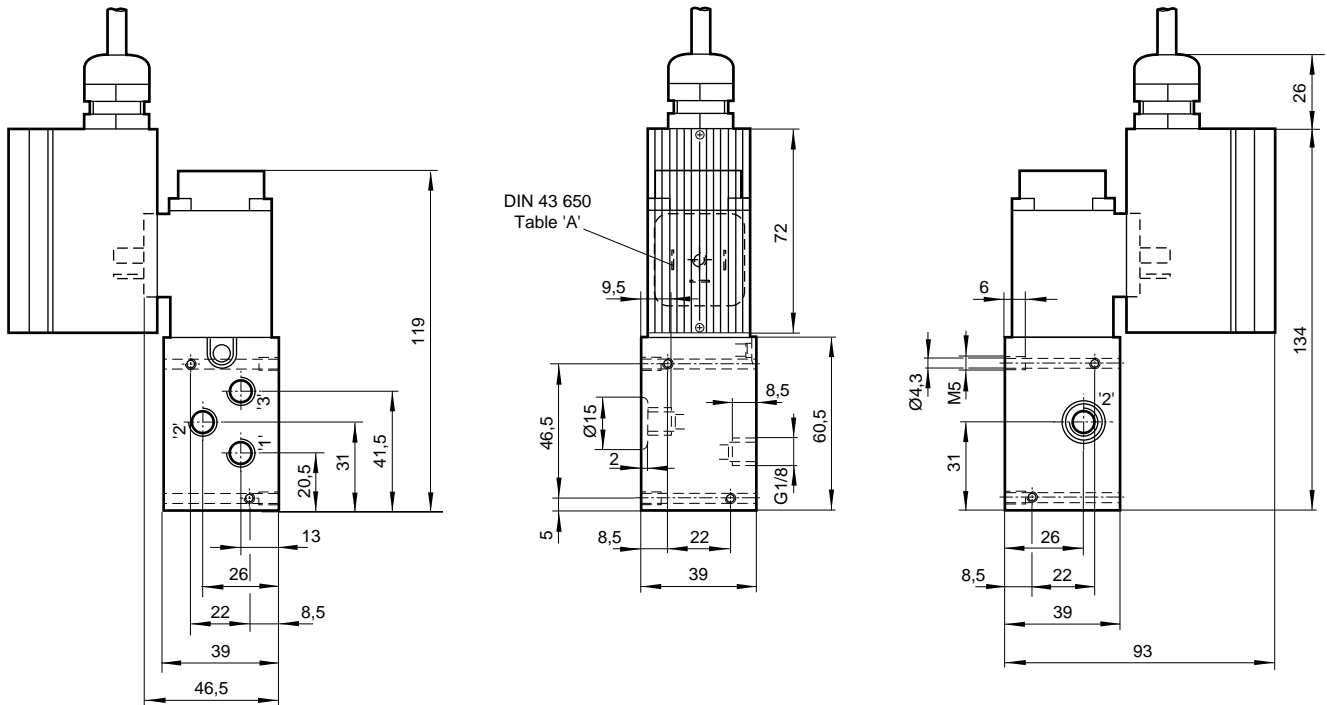
**PDW 5321-125**  
1 V/bar



**PDW 5321-125**  
1 - 8 bar



**PDW 5321-1\*\* Models**  
Proportional Valve with Amplifier





**FP400\* Models**  
**Side Ported Sub-bases**

**Left Hand Single Station Side Ported**  
Ports: 1,2 and 3 in side

**FP 4006** Weight: 0.100 Kg  
Type: G<sup>1</sup>/<sub>8</sub>

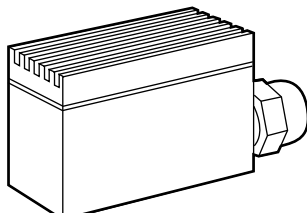
**FP 4009** Weight: 0.100 Kg  
Type: G<sup>1</sup>/<sub>4</sub>

**Right Hand Single Station Side Ported**  
Ports: 1,2 and 3 in side

**FP 4007** Weight: 0.100 Kg  
Type: G<sup>1</sup>/<sub>8</sub>

**FP 4010** Weight: 0.100 Kg  
Type: G<sup>1</sup>/<sub>4</sub>

**PPZ 1200**  
**Amplifier**



**PDW 5321 Surface Mounting Details**

